

What is claimed is:

1. A system for measuring characteristics of a sample, comprising:  
a light source for generating a beam of light;  
a mirror movable between a first position and a second position, the first  
5 position located between the light source and the sample such that light generated by  
the light source is reflected off the mirror and transmitted through a reflection path,  
the second position allowing light generated by the light source to be reflected off the  
sample and transmitted through the reflection path; and  
a spectrometer positioned along the reflection path for selectively receiving  
10 light reflected from one of the mirror and the sample and generating signals  
corresponding to an intensity of the reflected light at different wavelengths.
2. A system according to claim 1, further comprising:  
a beam splitter positioned to direct light from the light source toward the  
15 sample.
3. A system according to claim 2, wherein:  
the beam splitter is positioned along the reflection path.
- 20 4. A system according to claim 2, further comprising:  
an objective lens positioned between the beam splitter and the sample.
5. The system of claim 3, wherein in the first position the mirror is positioned  
between the beam splitter and the sample.  
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6. A system according to claim 1, wherein:  
the spectrometer generates a monitor signal in response to light reflected from  
the mirror and a measurement signal in response to light reflected from the sample



7. A system according to claim 1, further comprising:  
an optical fiber positioned along the reflection path and coupled to the spectrometer for directing the reflected light to the spectrometer..

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8. A system according to claim 1, further comprising:  
a processor coupled to the spectrometer for determining characteristics of the sample using a monitor signal generated by the spectrometer in response to receiving light reflected from the mirror and a measurement signal generated by the spectrometer in response to light reflected from the sample.

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9. A system according to claim 8, wherein:  
the processor determines the characteristics of the sample based on a ratio of the measurement signal relative to the monitor signal.

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10. A method for determining characteristics of a sample, comprising:  
generating a light beam and directing the light beam toward the sample;  
positioning a moveable mirror in one of a first position and a second position, the first position being located between the light source and the sample such that light generated by the light source is reflected off the mirror and transmitted through a reflection path, the second position allowing light generated by the light source to be reflected off the sample and transmitted through the reflection path; and  
selectively receiving light reflected from one of the mirror and the sample to a spectrometer positioned along the reflection path and generating signals corresponding to an intensity of the reflected light at different wavelengths.

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11. A method according to claim 10, wherein:  
generating signals includes generating a monitor signal in response to light reflected from the mirror and a measurement signal in response to light reflected from the sample.

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12. A method according to claim 11, further comprising:  
analyzing the measurement signal relative to the monitor signal to determine  
the characteristics of the sample.

5. 13. A method according to claim 12, wherein:  
determining the characteristics of the sample includes examining a ratio of the  
measurement signal relative to the monitor signal.

10 14. A method according to claim 10, wherein:  
directing the light beam toward the sample includes utilizing a beam splitter  
positioned along the light beam.

15 15. A method according to claim 14, further comprising:  
focusing the light beam on the sample using an objective lens positioned  
between the beam splitter and the sample.

20 16. A method according to claim 10, further comprising:  
directing the reflected light to the spectrometer using an optical fiber  
positioned along the reflection path and coupled to the spectrometer.